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United States
Department of
Agriculture

Natural
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Conservation
Service

Idaho Basin Outlook Report February 1, 1999



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Basin Outlook Reports and Federal - State - Private Cooperative Snow Surveys

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Natural Resources Conservation Service

Snow Surveys

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<http://idsnow.id.nrcs.usda.gov/>

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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IDAHO WATER SUPPLY OUTLOOK REPORT

FEBRUARY 1, 1999

SUMMARY

Nearly all basins in Idaho are reporting a normal snowpack or better, with the exception of the Bear River which is a little below normal. Isolated areas of near record high snow water content levels are located in northern Idaho. Snowpacks in the Clearwater and Panhandle Region are the 2nd highest since 1974, exceeded only by 1997. Near normal precipitation fell across Idaho last month with some areas receiving 1 1/2 times their normal amounts. Most reservoirs or reservoir systems are reporting storage levels around 3/4 full; plans are being formulated to start drafting some reservoirs in order to maintain adequate flood control space. Streamflow forecasts are for 100-120% of average for the northern 2/3 of Idaho and 70-90% across southern Idaho. Water supplies will be more than adequate to meet needs across the state.

SNOWPACK

A few individual higher elevation snow measuring stations are 160-170% of average in northern Idaho and approaching snow levels that occurred in the winter of 1996-97. However, the lower elevation snowpack in northern Idaho is above average, but at much lower levels than in 1997. Priest River has the highest snowpack percentage in the state at 144% of average. Other basins with snowpack in the 130-140% of average range are: Kootenai, Moyie, Rathdrum, Lochsa, South Fork Salmon, Little Salmon, Mann, Weiser, North Fork Payette and Mores Creek. The lowest snowpacks in the state are 80-95% of average in southeastern Idaho & southwestern Wyoming (Bear River, Blackfoot, Portneuf, Willow, Hoback, Greys, and Salt basins). Elsewhere in Idaho the snowpacks are 100-125% of average.

PRECIPITATION

January precipitation was near normal or better across the entire state. Greatest amounts fell south of the Snake River, 120% of average, and in the Panhandle Region, 116%. Elsewhere, January precipitation ranged from 95-105% of average. Pockets of well above normal precipitation fell in some mountain areas around the state. These higher elevation areas received between 130-150% of their normal January amounts, and include isolated pockets in the Panhandle Region and eastern Washington, along the Idaho-Montana border, Camas Creek area near Fairfield, and some isolated areas in the Snake River headwaters of Wyoming. The long-term outlook by the National Weather Service is for normal temperatures and precipitation for February. The Feb-Apr outlook is for above normal temperatures for the northern one-third of Idaho and above normal precipitation for the northern two-thirds of Idaho.

RESERVOIRS

Reservoir storage is above to well above average across Idaho. In some areas, reservoirs are too full and plans are formulating as to when drafting may start. Dworshak Reservoir will be drained to minimum pool level of 1,452,000 acre-feet by the end of March. Bear Lake, 80% full, may be drafted slightly to maintain adequate flood control space. Oakley Reservoir is at a near record storage for January 31 and may come close to filling if the reasonable maximum forecast (10% Chance of Exceeding) occurs. The Payette reservoir system is passing inflow and will increase outflows if conditions dictate. Magic, Mackay, Little Wood and upper Snake reservoirs are about 3/4 full and in a similar situation. Stay tuned and monitor the snow changes on our web page. Reservoir operations may change as much as the weather this year.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive, and in some cases dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in the back of this report.

STREAMFLOW

For most of the state, this is 5th consecutive year of near normal snowpacks or better. As a result, soil moisture, springs and groundwater sources have been recharged and may allow the snowpack to be more efficient in producing streamflow when it melts, especially if rain falls during the critical snowmelt period. The highest streamflow forecasts in the state are 120-130% of average in the Spokane, Payette and Weiser drainages. Central and eastern Idaho streams are forecast at 95-110% of average. The lowest forecasts are across southern Idaho in the 70-90% of average category.

RECREATION

Winter recreationists have plenty of snow to enjoy this season. Some higher elevation snowpacks in the Panhandle Region are nearly 18 feet deep. Snowpacks in the central Idaho mountains are over 8 feet deep in some areas. Snow density is much lighter than in 1997, and it doesn't have the ice layers that occurred in 1997 as a result of mid-winter rains. Wind, however, has had a bigger effect on the snowpack -- redistributing it and making wind blown slabs. Near to above normal snowpacks across most of the state also bring with it normal or better summer streamflow. With above average snowpacks in northern Idaho, river runners can expect high water for an extended period of time this summer. The whitewater season on Idaho high desert streams is looking promising as snowpacks inch upward to near normal or better in the Owyhee and Bruneau basins.

IDAHO SURFACE WATER SUPPLY INDEX (SWSI)

As of February 1, 1999

The Surface Water Supply Index (SWSI) is predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences.

SWSI values are published January through May, and provide a more comprehensive outlook of water availability than either streamflow forecasts or reservoir storage figures alone. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been established for most basins to indicate the potential for agricultural water shortages.

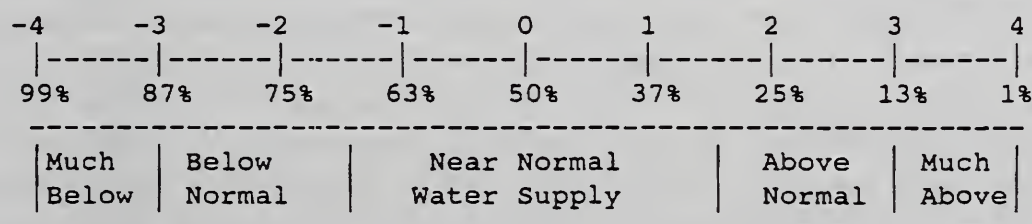
The following agencies and cooperators provide assistance in the preparation of the Surface Water Supply Index for Idaho:

US Department of Commerce, National Weather Service
US Bureau of Reclamation
Idaho Water Users Association

US Army Corps of Engineers
Idaho Department of Water Resources
PacifiCorp

<i>BASIN or REGION</i>	<i>SWSI Value</i>	<i>Most Recent Year With Similar SWSI Value</i>	<i>Agricultural Water Supply Shortage May Occur When SWSI is Less Than</i>
PANHANDLE	1.5	1990	NA
CLEARWATER	1.9	1996	NA
SALMON	2.4	1983	NA
WEISER	1.6	1995	NA
PAYETTE	2.5	1995	NA
BOISE	1.1	1995	-2.6
BIG WOOD	0.8	1993/96	-1.4
LITTLE WOOD	1.0	1996	-2.1
BIG LOST	1.5	1980	-0.8
LITTLE LOST	0.9	1980/93	0.0
HENRYS FORK	1.3	1993	-3.3
SNAKE (AMERICAN FALLS)	1.5	1995	-2.0
OAKLEY	2.2	1985	0.0
SALMON FALLS	2.6	1996	0.0
BRUNEAU	-1.3	1985/91	NA
OWYHEE	1.2	1996	NA
BEAR RIVER	0.1	1997	-3.8

SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION



Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply", represents three SWSI units and would be expected to occur about one third (36%) of the time.

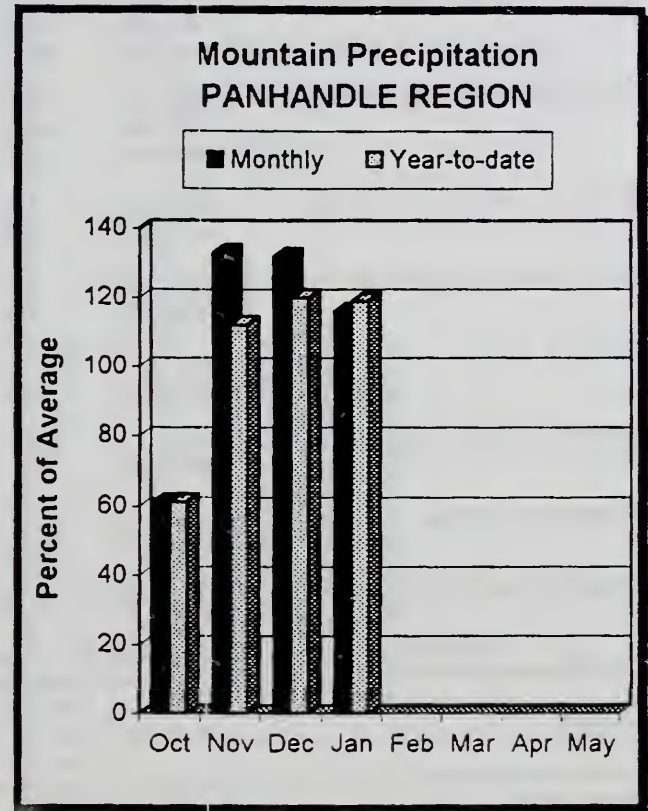
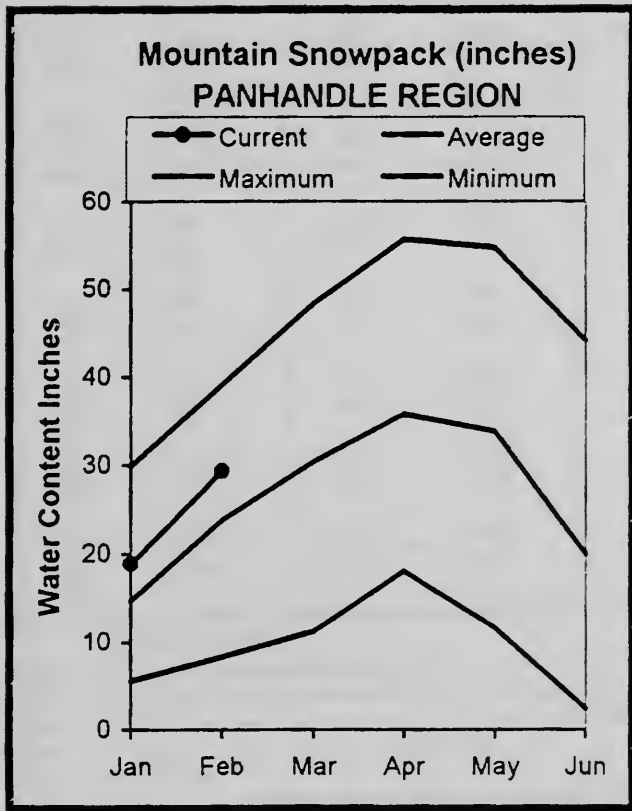
BASIN - W I D E S N O W P A C K S U M M A R Y

FEBRUARY 1999

BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE

Kootenai ab Bonners Ferry	161%	132%
Moyle River	165%	134%
Priest River	158%	144%
Pend Oreille River	148%	122%
Rathdrum Creek	123%	135%
Hayden Lake	0%	0%
Coeur d'Alene River	152%	112%
St. Joe River	138%	108%
Spokane River	139%	118%
Palouse River	88%	80%
North Fork Clearwater	160%	126%
Lochsa River	156%	130%
Selway River	144%	128%
Clearwater Basin Total	154%	126%
Salmon River ab Salmon	132%	113%
Lemhi River	131%	115%
Middle Fork Salmon River	138%	117%
South Fork Salmon River	144%	130%
Little Salmon River	150%	138%
Salmon Basin Total	140%	124%
Mann Creek	128%	131%
Weiser River	143%	133%
North Fork Payette	140%	138%
South Fork Payette	120%	112%
Payette Basin Total	131%	129%
Middle & North Fork Boise	122%	112%
South Fork Boise River	115%	109%
Mores Creek	104%	132%
Boise Basin Total	112%	115%
Canyon Creek	86%	105%
Big Wood ab Magic	121%	102%
Camas Creek	114%	114%
Big Wood Basin Total	113%	104%
Little Wood River	133%	105%
Fish Creek	140%	99%
Big Lost River	135%	107%
Little Lost River	135%	103%
Birch-Medicine Lodge Creeks	141%	121%
Camas-Beaver Creeks	131%	94%
Henrys Fork-Falls River	127%	118%
Teton River	97%	101%
Snake above Jackson Lake	113%	116%
Gros Ventre River	102%	104%
Hcback River	100%	95%
Greys River	100%	93%
Salt River	93%	95%
Snake above Palisades	106%	107%
Willow Creek	88%	97%
Blackfoot River	86%	87%
Portneuf River	84%	96%
Snake abv American Falls Resv	100%	104%
Raft River	90%	105%
Goose-Trapper Creeks	98%	100%
Salmon Falls Creek	116%	101%
Bruneau River	108%	94%
Owyhee Basin Total	117%	116%
Smiths & Thomas Forks	89%	92%
Bear River ab WY-ID line	89%	86%
Montpelier Creek	97%	90%
Mink Creek	87%	78%
Cub River	81%	99%
Bear River ab ID-UT line	88%	87%
Malad River	64%	89%
Green River ab Warren Bridge	102%	93%
Upper Green River (West Side)	101%	91%
New Fork River	128%	105%
Big Sandy River/Eden Valley	146%	99%
Green River above Fontenelle	105%	94%
Hams Fork River	95%	90%
Green River above Flaming Gorge	103%	94%

PANHANDLE REGION FEBRUARY 1, 1999



WATER SUPPLY OUTLOOK

The snowpack in the Panhandle Region overall is 123% of average. However, some higher elevation sites are approaching or exceeding snow water content levels of two years ago. Lower elevation snowpacks are a little above normal. Benton Spring snow course, located about 10 miles north of Priest River at 4920 feet in elevation, has the 3rd highest February 1 snow water content since measurements started in 1937, exceeded only by years 1952 and 1997. Bear Mountain SNOTEL site, located about 10 miles north of Clark Fork along the Idaho-Montana border, is at a record high level since daily records started in 1982. This site has 61 inches of snow water, 159% of average. On average, this site peaks at 61 inches on May 1. Bear Mountain received nearly 20 inches of rain and snow in January, 2nd highest level since records started in 1982. Streamflow forecasts range from 105-120% of average for these northern Idaho rivers. If winter storms continue tracking across northern Idaho, residents can expect rivers to remain high for an extended period of time during the snow melt season.

PANHANDLE REGION
Streamflow Forecasts - February 1, 1999

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
KOOTENAI at Leonia (1,2)	APR-JUN	5060	5971	6385	112	6799	7710	5701
	APR-JUL	6211	7345	7860	109	8375	9509	7199
	APR-SEP	7133	8437	9030	109	9623	10927	8275
CLARK FK at Whitehorse Rpds (1,2)	APR-JUN	7919	9935	10850	108	11765	13781	10050
	APR-JUL	9262	11626	12700	108	13774	16138	11730
	APR-SEP	10217	12819	14000	108	15181	17783	12910
PEND OREILLE Lake Inflow (1,2)	APR-JUN	8792	11273	12400	109	13527	16008	11390
	APR-JUL	10478	13106	14300	109	15494	18122	13150
	APR-SEP	11420	14295	15600	109	16905	19780	14370
PRIEST nr Priest River (1,2)	APR-JUL	577	765	850	104	935	1123	814
	APR-SEP	613	814	905	104	996	1197	868
COEUR D'ALENE at Enaville	APR-JUL	716	835	916	119	997	1116	770
	APR-SEP	757	878	960	119	1042	1163	809
ST.JOE at Calder	APR-JUL	1147	1285	1378	118	1471	1609	1169
	APR-SEP	1222	1364	1460	118	1556	1698	1237
SPOKANE near Post Falls (2)	APR-JUL	2497	2884	3147	120	3410	3797	2633
	APR-SEP	2551	2943	3210	118	3477	3869	2730
SPOKANE at Long Lake	APR-JUL	2757	3171	3452	118	3733	4147	2936
	APR-SEP	2975	3403	3694	117	3985	4413	3159

PANHANDLE REGION Reservoir Storage (1000 AF) - End of January					PANHANDLE REGION Watershed Snowpack Analysis - February 1, 1999			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
HUNGRY HORSE	3451.0	2447.0	2468.0	2362.0	Kootenai ab Bonners Ferry	23	161	132
FLATHEAD LAKE	1791.0	694.3	682.4	1095.0	Moyie River	10	165	134
NOXON RAPIDS	335.0	310.6	285.7	314.2	Priest River	4	160	144
PEND OREILLE	1561.3	916.5	895.8	791.0	Pend Oreille River	74	148	122
COEUR D'ALENE	238.5	123.5	104.5	127.8	Rathdrum Creek	4	126	131
PRIEST LAKE	119.3	55.6	51.0	53.9	Hayden Lake	0	0	0
					Coeur d'Alene River	5	152	112
					St. Joe River	2	138	108
					Spokane River	11	140	116
					Palouse River	1	88	80

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

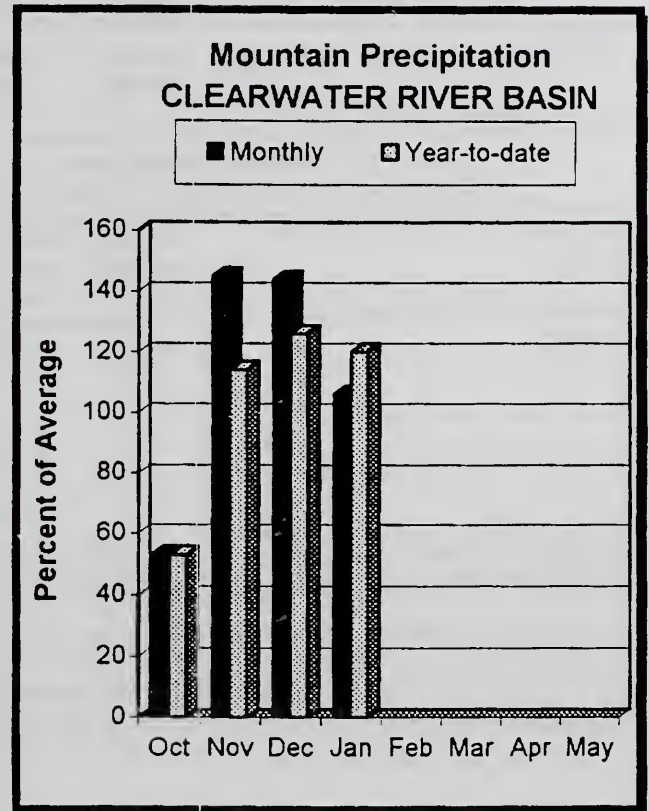
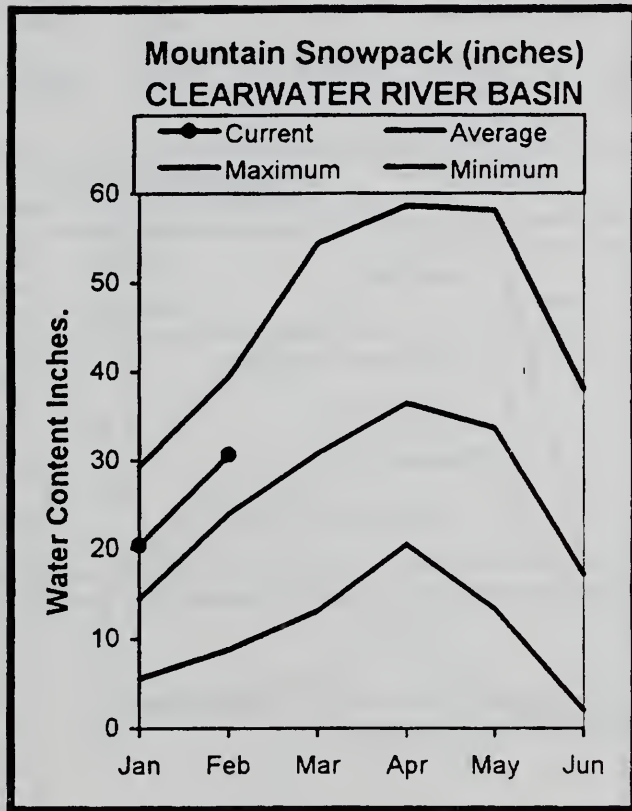
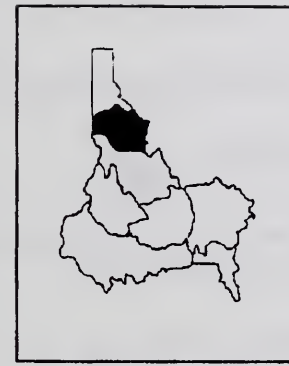
The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

CLEARWATER RIVER BASIN

FEBRUARY 1, 1999



WATER SUPPLY OUTLOOK

Heavy winter storms continued tracking across the Clearwater basin last month. The snowpack remains well above average at 126% of average for the basin as a whole. Many snow measuring sites are reporting amounts that are more typical of March 1 rather than February 1. The snowpack above Dworshak Reservoir is the 7th highest since 1961, and the 2nd highest since 1974, exceeded only by the 1997 snowpack. Dworshak Reservoir is 64% of capacity and is will be drafted to the inactive storage level of 1,452,000 acre-feet by the end of March. Dworshak Reservoir inflow is forecast at 115% of average. The Clearwater River at Spalding is forecast at 114% of average. Water users can expect streams to remain above normal for an extended period of time this summer, especially if this storm pattern, which is typical during La Nina type years, continues tracking across northern Idaho.

CLEARWATER RIVER BASIN
Streamflow Forecasts - February 1, 1999

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						
		=====		Chance Of Exceeding *		=====		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
DWORSHAK RESV INFLOW (1,2)	APR-JUL	2384	2876	3100	115	3324	3816	2687
	APR-SEP	2547	3058	3290	115	3522	4033	2858
CLEARWATER at Orofino (1)	APR-JUL	3419	4630	5180	110	5730	6941	4718
	APR-SEP	3600	4879	5460	110	6041	7320	4976
CLEARWATER at Spalding (1,2)	APR-JUL	5682	7730	8660	114	9590	11638	7618
	APR-SEP	6009	8176	9160	114	10144	12311	8052

CLEARWATER RIVER BASIN Reservoir Storage (1000 AF) - End of January					CLEARWATER RIVER BASIN Watershed Snowpack Analysis - February 1, 1999			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
DWORSHAK	3468.0	2236.8	2144.5	2211.0	North Fork Clearwater	10	160	126
					Lochsa River	4	156	130
					Selway River	5	144	128
					Clearwater Basin Total	17	154	126

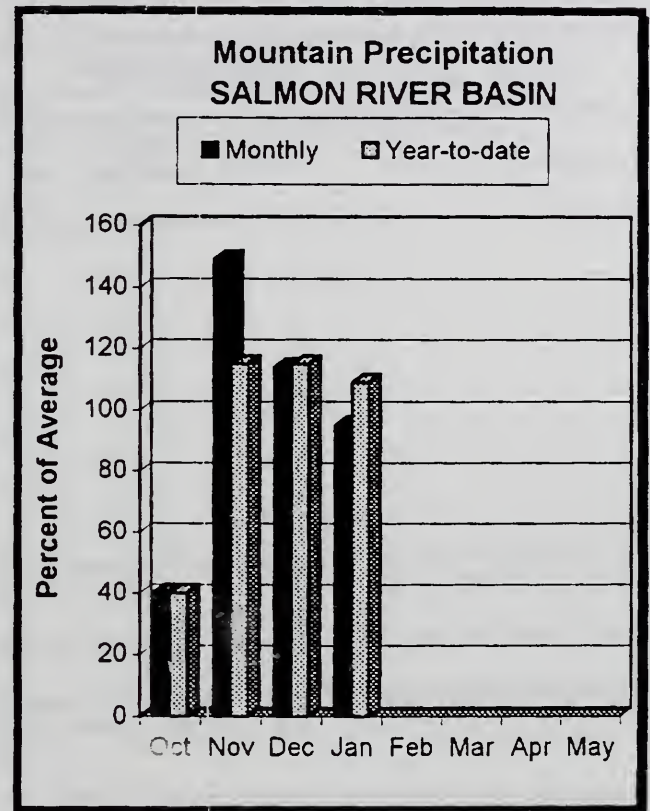
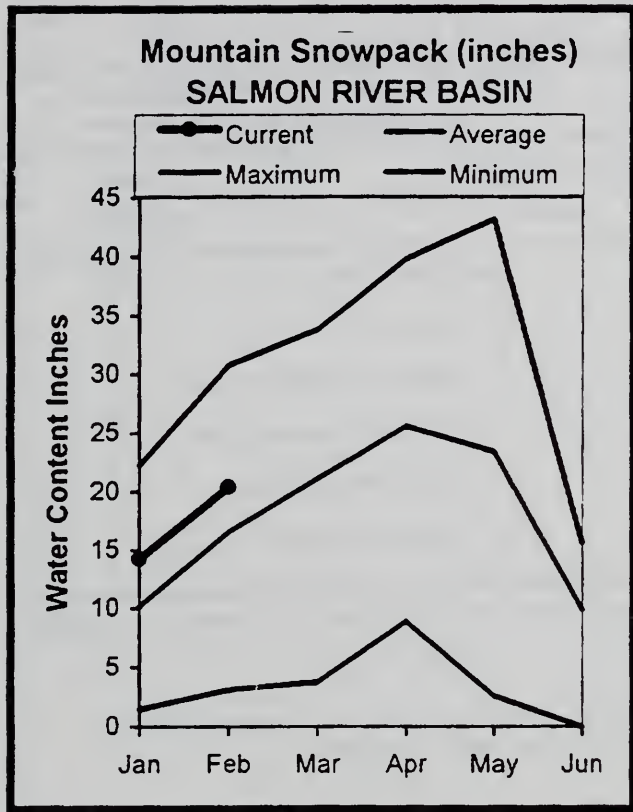
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

SALMON RIVER BASIN FEBRUARY 1, 1999



WATER SUPPLY OUTLOOK

January precipitation was 95% of average and is 109% for the water year. The snowpack in the Salmon basin ranges from 113% of average in the Salmon River above Salmon to 138% in the Little Salmon basin. The snowpack in the Middle Fork Salmon River is 117% of average and similar to the February 1 values of 1995 and 1996. This is the 5th consecutive year with near normal or above normal snowpacks. Streamflow forecasts call for 113% of average for the Salmon River above Salmon and 115% for the Salmon River at White Bird. River running opportunities are looking excellent as a result of the good snowpacks.

SALMON RIVER BASIN
Streamflow Forecasts - February 1, 1999

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>						
		=====		Chance Of Exceeding *		=====		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
SALMON at Salmon (1)	APR-JUL	610	868	985	113	1102	1360	869
	APR-SEP	710	1013	1150	113	1287	1590	1019
SALMON at White Bird (1)	APR-JUL	4762	6177	6820	115	7463	8878	5956
	APR-SEP	5279	6848	7560	115	8272	9841	6602

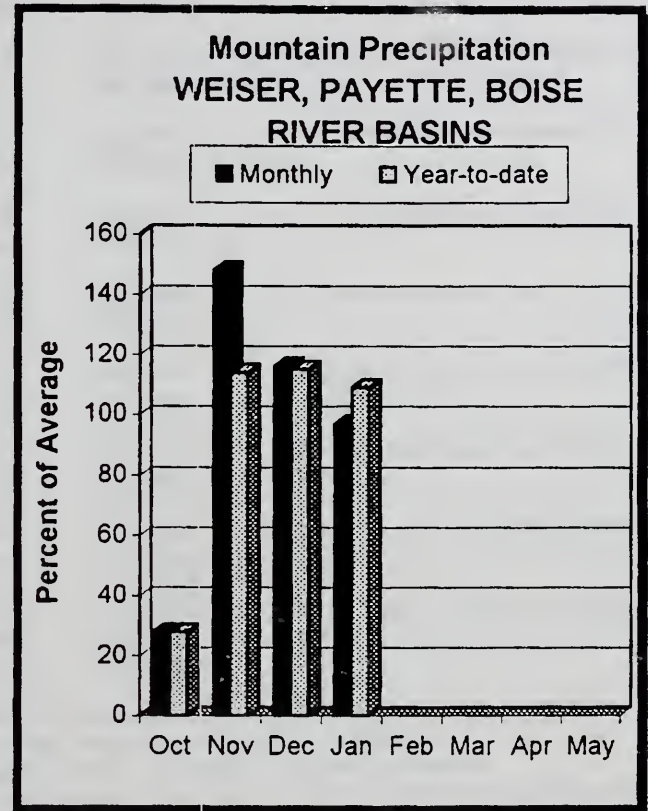
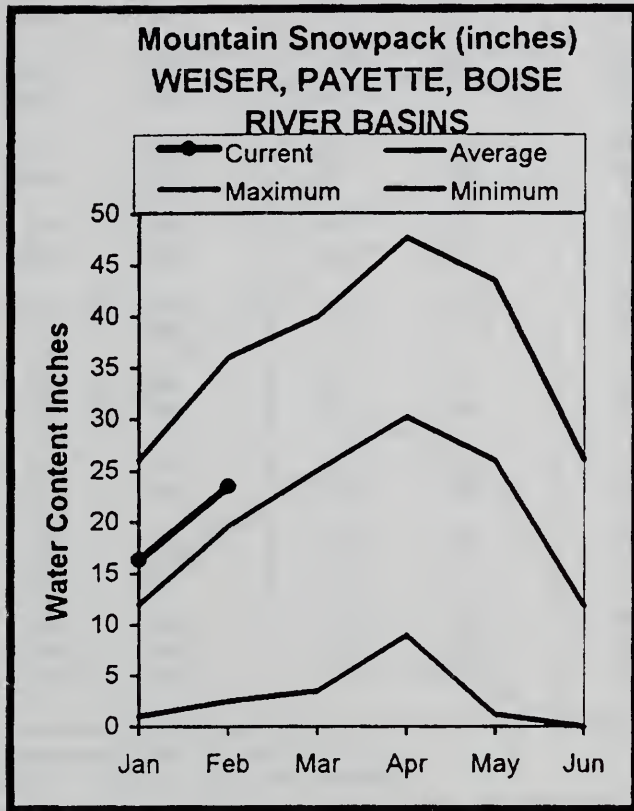
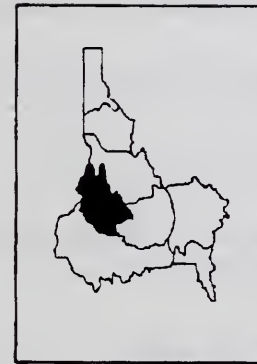
SALMON RIVER BASIN Reservoir Storage (1000 AF) - End of January					SALMON RIVER BASIN Watershed Snowpack Analysis - February 1, 1999			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					Salmon River ab Salmon	8	133	113
					Lemhi River	4	131	115
					Middle Fork Salmon River	3	138	117
					South Fork Salmon River	3	144	130
					Little Salmon River	4	150	138
					Salmon Basin Total	23	140	124

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

WEISER, PAYETTE, BOISE RIVER BASINS FEBRUARY 1, 1999



WATER SUPPLY OUTLOOK

January precipitation was near normal in the mountains and is 109% of average for the water year to date. Warmer temperatures in the valleys kept the snow line above the valley floor most of the month while snow continued piling-up in the higher elevations. Snow depths are approaching 100 inches deep in some areas of the Boise basin. The snowpack in the North Fork Payette basin (138% of average) is the 5th highest since 1961, and 2nd highest since 1974; only 1997 had more snow. The snowpack is about 132% of average in the Weiser, Mann and Mores Creek basins. Overall, the snowpack is 129% of average in the Payette basin and 115% in the Boise basin. Lower elevation snow is above normal in the South Fork Boise River, Mores Creek and Boise foothills and could melt quickly if warm, wet weather were to occur. Reservoir storage is about 73% of capacity in the Boise and Payette systems. Streamflow forecasts range from a high of 128% of average for the Weiser and North Fork Payette rivers to a low of 100% for South Fork Boise River. Water supplies and streamflows will be plentiful this season.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - February 1, 1999

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						
		=====		Chance Of Exceeding *		=====		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
WEISER nr Weiser (1)	APR-JUL	266	427	500	130	573	734	386
	APR-SEP	284	457	535	129	613	786	415
SF PAYETTE at Lowman	APR-JUL	364	424	465	108	506	566	432
	APR-SEP	413	478	522	107	566	631	488
DEADWOOD RESERVOIR Inflow (1,2)	APR-JUL	113	139	150	111	161	187	135
	APR-SEP	118	145	157	110	169	196	143
NF PAYETTE nr Cascade (1,2)	APR-JUL	468	582	634	128	686	800	496
	APR-SEP	484	609	665	125	721	846	533
NF PAYETTE nr Banks (2)	APR-JUL	664	766	835	129	904	1006	648
	APR-SEP	684	795	870	126	945	1056	690
PAYETTE nr Horseshoe Bend (1,2)	APR-JUL	1503	1824	1970	122	2116	2437	1618
	APR-SEP	1628	1980	2140	122	2300	2652	1755
BOISE near Twin Springs (1)	APR-JUL	527	650	705	112	760	883	631
	APR-SEP	570	701	760	111	819	950	686
SF BOISE at Anderson Ranch Dam (1,2)	APR-JUL	378	503	560	103	617	742	544
	APR-SEP	382	518	580	100	642	778	582
MORES CREEK near Arrowrock Dam	APR-JUL	90	114	131	102	148	172	129
	APR-SEP	94	119	136	102	153	178	134
BOISE near Boise (1,2)	APR-JUN	987	1226	1335	106	1444	1683	1264
	APR-JUL	1086	1384	1520	107	1656	1954	1421
	APR-SEP	1190	1493	1630	106	1767	2070	1535

WEISER, PAYETTE, BOISE RIVER BASINS Reservoir Storage (1000 AF) - End of January					WEISER, PAYETTE, BOISE RIVER BASINS Watershed Snowpack Analysis - February 1, 1999			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
MANN CREEK	11.1	6.1	2.7	4.6	Mann Creek	1	128	131
CASCADE	703.2	527.5	564.0	413.5	Weiser River	3	143	133
DEADWOOD	161.9	125.2	129.9	79.0	North Fork Payette	8	140	138
ANDERSON RANCH	464.2	394.0	431.8	290.2	South Fork Payette	4	132	112
ARROWROCK	286.6	253.4	229.2	216.0	Payette Basin Total	13	136	129
LUCKY PEAK	293.2	106.1	124.9	109.1	Middle & North Fork Boise	6	122	112
LAKE LOWELL (DEER FLAT)	177.1	109.4	115.4	117.9	South Fork Boise River	7	118	109
					Mores Creek	4	115	132
					Boise Basin Total	13	118	115
					Canyon Creek	1	86	105

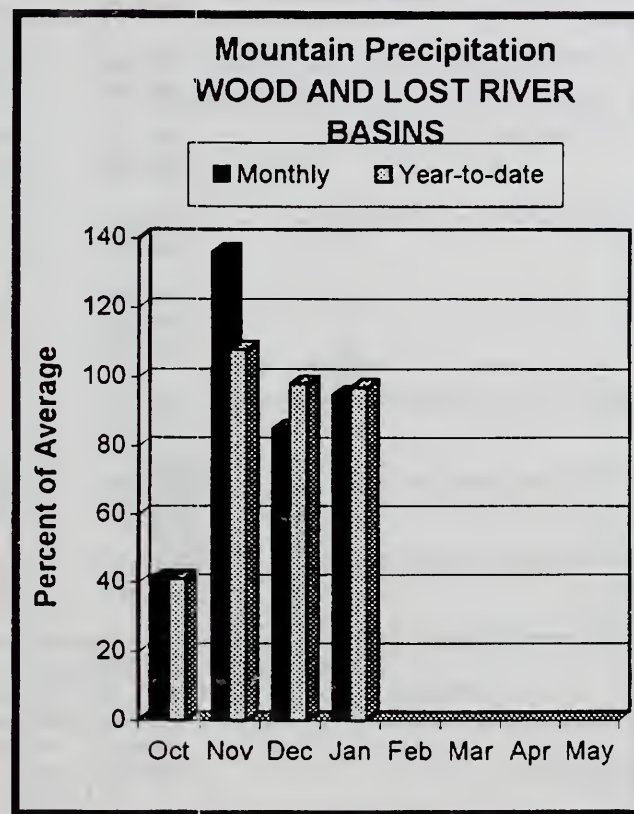
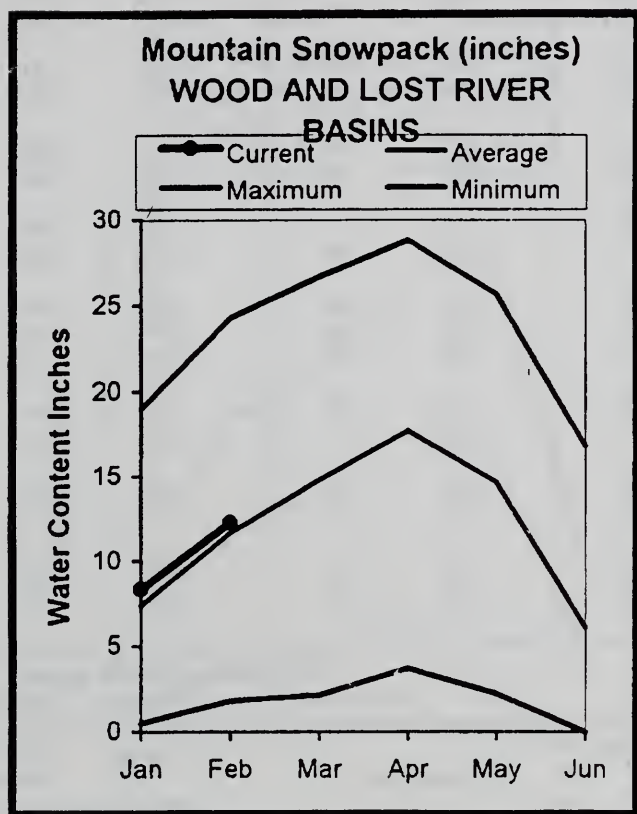
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

WOOD and LOST RIVER BASINS FEBRUARY 1, 1999



WATER SUPPLY OUTLOOK

Near normal precipitation fell in January keeping the water year to date precipitation at near normal levels. Snow water content levels are also near normal in these central Idaho mountains. The highest percentages are in Camas Creek at 114% of average and Birch-Medicine Lodge Creeks at 121%. Reservoir storage is about 3/4 full in Magic, Little Wood and Mackay reservoirs. Streamflow forecasts range from 85-110% of average in these central Idaho streams. Water supplies will be adequate for these users. Reservoir releases may be needed if precipitation is above normal for the rest of the winter.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - February 1, 1999

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						
		=====		Chance Of Exceeding *		=====		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
BIG WOOD at Hailey (1)	APR-JUL	147	211	240	94	269	333	255
	APR-SEP	170	239	270	93	301	370	289
BIG WOOD near Bellevue	APR-JUL	95	138	168	92	198	241	183
	APR-SEP	104	150	181	92	212	258	197
CAMAS CREEK near Blaine	APR-JUL	49	70	87	85	106	136	102
	APR-SEP	50	71	88	85	107	137	103
BIG WOOD below Magic Dam (2)	APR-JUL	178	233	270	92	307	362	295
	APR-SEP	190	246	285	92	324	380	310
LITTLE WOOD near Carey (2)	MAR-JUL	70	90	104	104	118	138	100
	MAR-SEP	76	97	112	104	127	148	108
BIG LOST at Howell Ranch	APR-JUN	114	137	152	108	167	190	141
	APR-JUL	136	171	195	108	219	254	181
	APR-SEP	159	198	225	109	252	291	206
BIG LOST below Mackay Reservoir (2)	APR-JUL	110	144	167	110	190	224	152
	APR-SEP	135	172	197	107	222	259	184
LITTLE LOST blw Wet Creek	APR-JUL	26	31	34	110	37	42	31
	APR-SEP	33	39	43	110	47	53	39
LITTLE LOST nr Howe (Disc)	APR-JUL	29	33	35	107	38	42	33
	APR-SEP	36	42	45	105	49	54	43

WOOD AND LOST RIVER BASINS Reservoir Storage (1000 AF) - End of January					WOOD AND LOST RIVER BASINS Watershed Snowpack Analysis - February 1, 1999			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
MAGIC	191.5	134.7	152.3	86.1	Big Wood ab Magic	8	120	102
LITTLE WOOD	30.0	23.2	24.4	15.4	Camas Creek	3	125	114
MACKAY	44.4	33.4	30.0	29.1	Big Wood Basin Total	11	121	104
					Little Wood River	3	133	105
					Fish Creek	1	153	99
					Big Lost River	6	135	107
					Little Lost River	3	135	103
					Birch-Medicine Lodge Cree	2	141	121

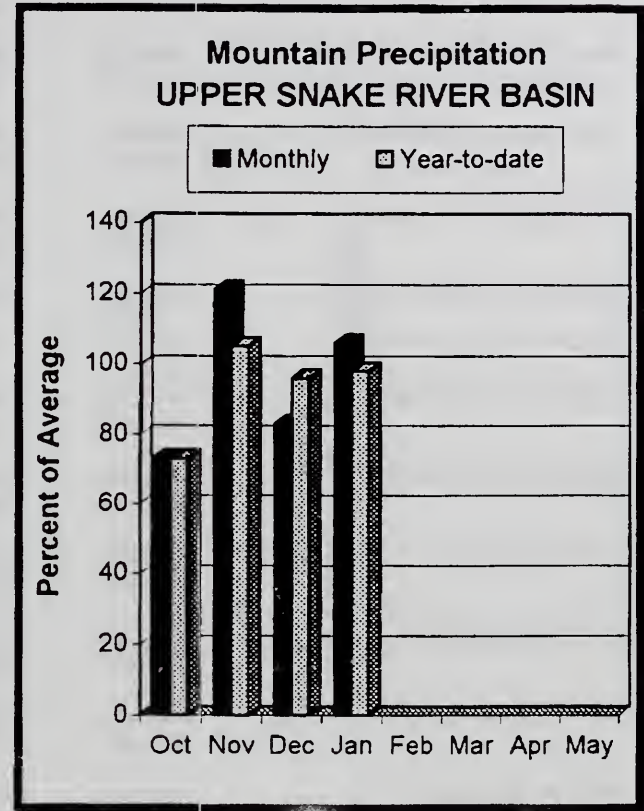
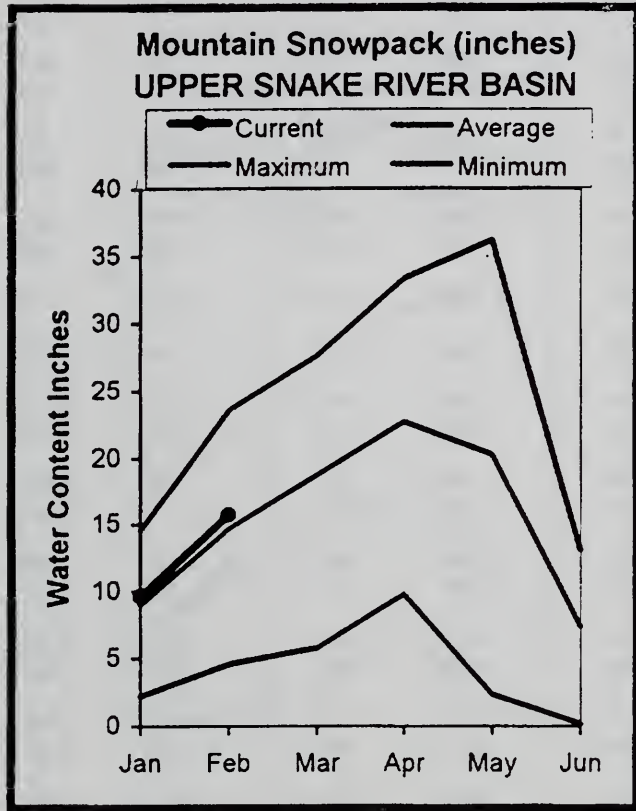
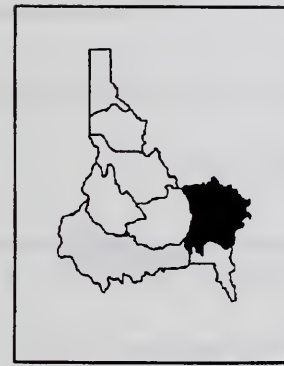
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

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 (2) - The value is natural flow - actual flow may be affected by upstream water management.

UPPER SNAKE RIVER BASIN

FEBRUARY 1, 1999



WATER SUPPLY OUTLOOK

The headwaters of the Henrys Fork, Falls and Snake River above Jackson Lake host the highest snowpacks in the basin at 117% of average. The lowest snowpacks are in the Blackfoot River basin at 87% of average. Elsewhere, snowpacks are in the 95-105% of average range. January precipitation was above normal in the northern mountains and below normal in the southern mountains of the basin. Water year to date precipitation is normal at 98% of average. Combined reservoir storage for the 3 storage facilities on the Henrys Fork is 91% of capacity. Combined storage for the 4 reservoirs on the mainstem of the Snake River is 75% of capacity. Streamflow forecasts range from 95-110% of average. Water supplies will be adequate for the many diverse water uses this summer.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - February 1, 1999

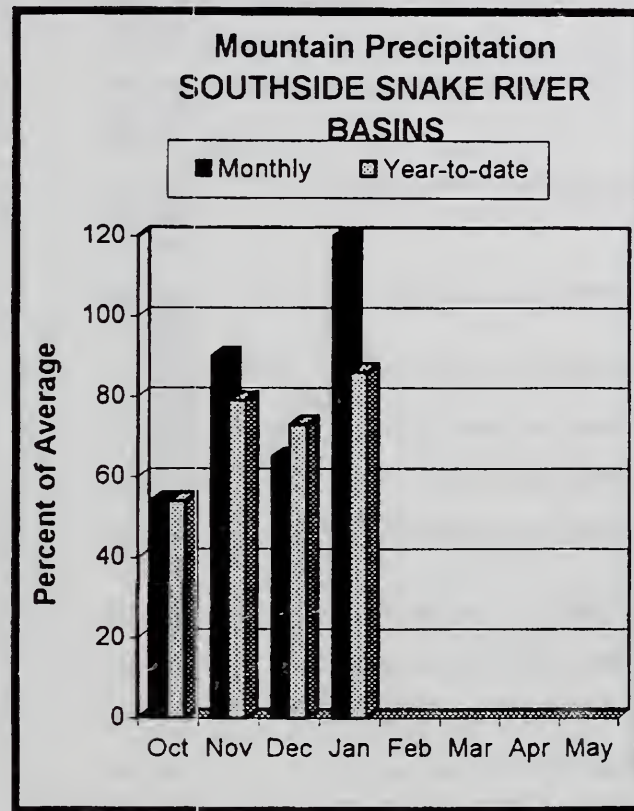
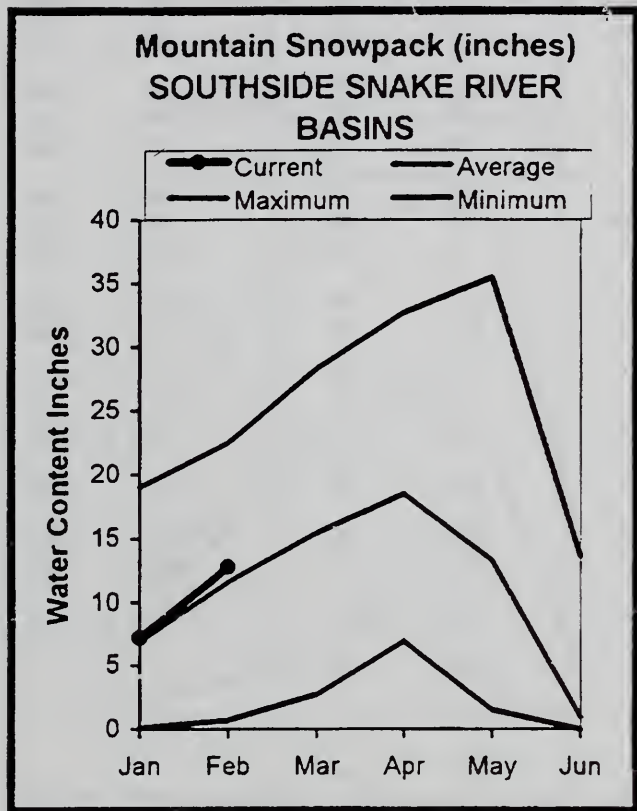
Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
HENRYS FORK near Ashton (2)	APR-JUL	480	533	569	105	605	658	544
	APR-SEP	664	727	770	106	813	876	730
HENRYS FORK near Rexburg (2)	APR-JUL	999	1164	1276	104	1388	1553	1228
	APR-SEP	1286	1473	1600	103	1727	1914	1551
FALLS near Squirrel (1,2)	APR-JUL	309	365	390	107	415	471	364
	APR-SEP	375	435	462	107	489	549	432
TETON near Driggs	APR-JUL	109	138	157	103	176	205	152
	APR-SEP	143	178	202	102	226	261	199
TETON near St. Anthony	APR-JUL	285	345	386	102	427	487	377
	APR-SEP	350	418	465	102	512	580	457
SNAKE near Moran (1,2)	APR-SEP	759	890	950	109	1010	1141	869
PACIFIC CREEK at Moran	APR-SEP	170	190	204	123	218	238	166
SNAKE above Palisades (2)	APR-JUL	2158	2385	2540	110	2695	2922	2311
	APR-SEP	2505	2764	2940	110	3116	3375	2671
GREYS above Palisades	APR-JUL	237	284	315	95	346	393	333
	APR-SEP	289	340	375	97	410	461	388
SALT near Etna	APR-JUL	205	263	302	95	341	399	319
	APR-SEP	271	339	385	97	431	499	399
PALISADES RESERVOIR INFLOW (1,2)	APR-JUL	2661	3193	3435	107	3677	4209	3226
	APR-SEP	3099	3698	3970	106	4242	4841	3763
SNAKE near Heise (2)	APR-JUL	3001	3393	3660	106	3927	4319	3451
	APR-SEP	3519	3966	4270	106	4574	5021	4049
SNAKE nr Blackfoot (1,2)	APR-JUL	3516	4433	4850	109	5267	6184	4444
	APR-SEP	4498	5514	5975	109	6436	7452	5482
PORTNEUF at Topaz	MAR-JUL	67	78	85	99	92	103	86
	MAR-SEP	84	96	105	98	114	126	107
AMERICAN FALLS RESV INFLOW (1,2)	APR-JUL	1911	2887	3330	109	3773	4749	3066
	APR-SEP	1962	3089	3600	109	4111	5238	3303

UPPER SNAKE RIVER BASIN Reservoir Storage (1000 AF) - End of January					UPPER SNAKE RIVER BASIN Watershed Snowpack Analysis - February 1, 1999			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
HENRYS LAKE	90.4	89.6	89.5	78.7	Camas-Beaver Creeks	3	131	93
ISLAND PARK	135.2	115.7	112.7	100.3	Henrys Fork-Falls River	10	127	118
GRASSY LAKE	15.2	12.9	8.1	10.8	Teton River	8	97	101
JACKSON LAKE	847.0	606.9	655.9	479.6	Snake above Jackson Lake	12	113	116
PALISADES	1400.0	1196.0	1284.2	1044.0	Gros Ventre River	3	102	104
RIRIE	80.5	41.9	41.7	34.1	Hoback River	7	100	95
BLACKFOOT	348.7	272.3	273.5	233.8	Greys River	4	100	93
AMERICAN FALLS	1672.6	1144.9	1298.9	1125.0	Salt River	5	93	95
					Snake above Palisades	29	106	107
					Willow Creek	7	88	97
					Blackfoot River	4	86	87
					Portneuf River	5	84	96
					Snake abv American Falls	43	100	104

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table. The average is computed for the 1961-1990 base period.

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 (2) - The value is natural flow - actual flow may be affected by upstream water management.

SOUTHSIDE SNAKE RIVER BASINS FEBRUARY 1, 1999



WATER SUPPLY OUTLOOK

January precipitation was 120% of average, the highest in the state. Water year to date precipitation remains below normal at 86% of average. Snowpacks are near normal ranging from 105% of average in the Raft River basin to 94% in the Bruneau basin. Oakley Reservoir storage is 42,400 acre-feet and near the highest January 31 storage value for the period of record. Oakley Reservoir is 168% of average which is 55% full. Plans are being formulated for drafting Oakley Reservoir if conditions dictate. Salmon Falls Reservoir is 43% of capacity and still has 100,000 acre-feet available for storing water. The most probable forecast for Oakley Reservoir inflow is 89% of average. The end-of-month storage forecasts for Oakley Reservoir (new this year) indicates there is a 50% chance the April 30 storage may exceed 53,400 acre-feet, or there is a 10% chance the storage may exceed 59,000 acre-feet. Elsewhere, streams are forecasts at 75-95% of average and will provide adequate water supply for southern Idaho water users.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - February 1, 1999

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>						
		=====		Chance Of Exceeding *		=====		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
OAKLEY RESV INFLOW	MAR-JUL	17.6	24	29	89	35	44	33
	MAR-SEP	19.7	27	32	89	38	48	36
OAKLEY RESV STORAGE	FEB-28	41	43	44	153	45	46	29
	MAR-31	45	47	49	147	50	53	33
	APR-30	47	51	53	141	56	59	38
SALMON FALLS CREEK nr San Jacinto	MAR-JUN	43	58	70	81	83	104	86
	MAR-JUL	46	63	76	83	90	114	91
	MAR-SEP	50	67	81	84	96	120	96
SALMON FALLS RESV STORAGE	FEB-28	77	80	82	150	84	87	55
	MAR-31	81	88	92	144	97	103	64
	APR-30	97	105	110	133	115	123	83
BRUNEAU near Hot Springs	MAR-JUL	124	164	195	83	229	283	235
	MAR-SEP	131	173	205	83	240	296	246
OWYHEE near Gold Creek (2)	MAR-JUL	10.7	17.5	23	73	29	40	31
OWYHEE nr Owyhee (2)	APR-JUL	19.7	46	65	75	83	109	86
OWYHEE near Rome	FEB-JUL	362	480	570	92	667	825	622
OWYHEE RESV INFLOW (2)	FEB-JUL	398	527	625	95	731	903	656
	FEB-SEP	435	558	650	95	749	908	684
SUCCOR CK nr Jordan Valley	FEB-JUL	12.7	19.8	25	152	29	37	16.2
SNAKE RIVER at King Hill (1,2)	APR-JUL			2840	98			2896
SNAKE RIVER near Murphy (1,2)	APR-JUL			2950	99			2980
SNAKE RIVER at Weiser (1,2)	APR-JUL			5570	102			5465
SNAKE RIVER at Hells Canyon Dam (1,2)	APR-JUL			6280	103			6129
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	14285	20691	23600	109	26509	32915	21650

SOUTHSIDE SNAKE RIVER BASINS Reservoir Storage (1000 AF) - End of January					SOUTHSIDE SNAKE RIVER BASINS Watershed Snowpack Analysis - February 1, 1999			
Reservoir	Usable Capacity	*** This Year	Usable Last Year	Storage *** Avg	Watershed	Number of Data Sites	This Year as % of Last Yr	% of Average
OAKLEY	77.4	42.4	40.9	25.3	Raft River	1	85	105
SALMON FALLS	182.6	78.7	73.9	50.0	Goose-Trapper Creeks	2	98	100
WILDHORSE RESERVOIR	71.5	54.4	54.4	31.5	Salmon Falls Creek	6	116	101
OWYHEE	715.0	511.7	468.8	464.0	Bruneau River	8	108	94
BROWNLEE	1419.3	1132.8	1294.9	1114.0	Owyhee Basin Total	20	117	116

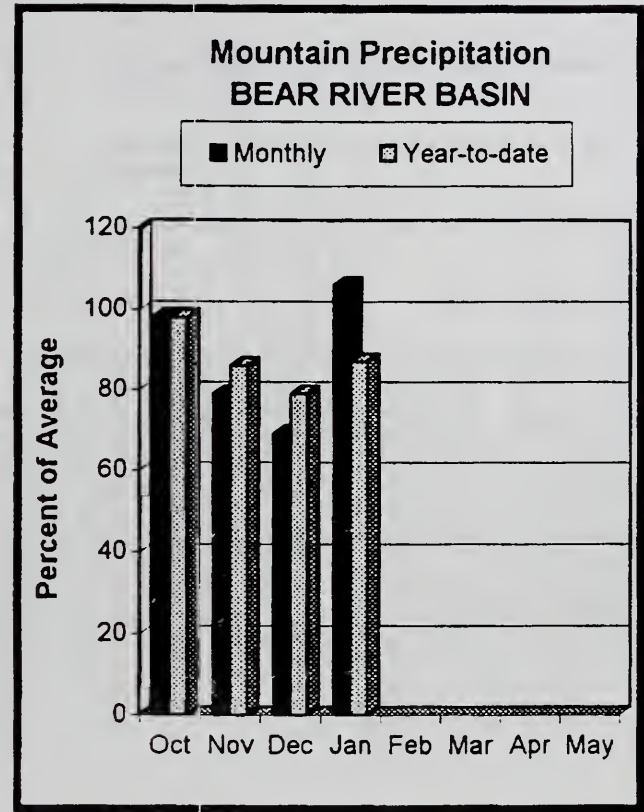
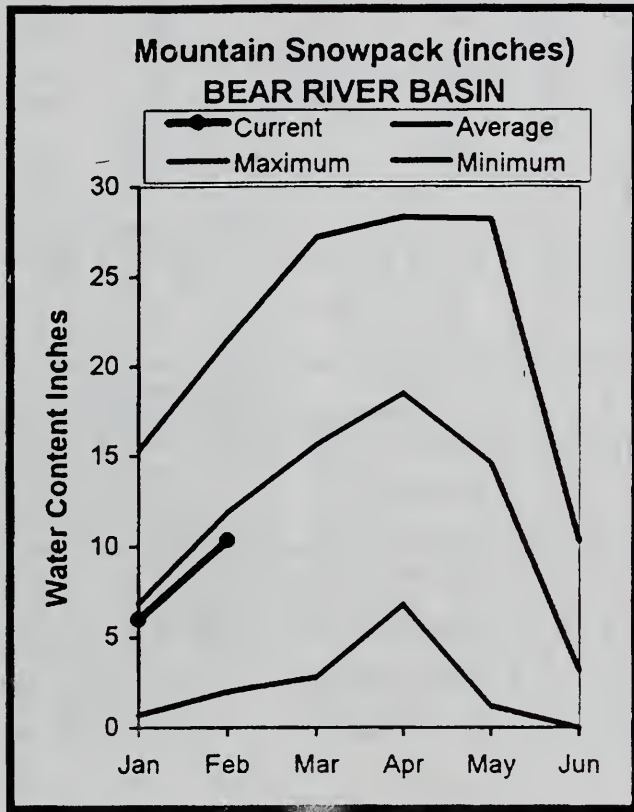
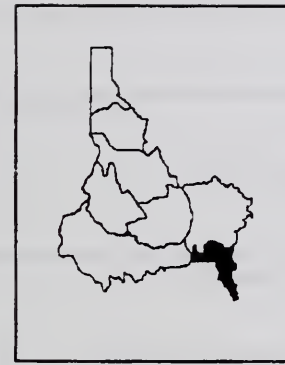
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BEAR RIVER BASIN FEBRUARY 1, 1999



WATER SUPPLY OUTLOOK

Precipitation in January was near normal and stands at 87% for the water year. The snowpack in the Bear River basin remains the lowest in the state. The highest snowpacks are 92-99% of average in the Cub, Montpelier, Smith and Thomas basins. The lowest snowpack is 87% of average in the headwaters of the Bear River in Utah and Wyoming. This is where the majority of the streamflow originates for Bear River water users. Streamflow forecasts call for below normal runoff, ranging from 70-85% of average. On the plus side, Bear Lake storage is 116% of average, 80% of capacity. Some drafting of Bear Lake may occur to maintain adequate flood control space. Bear Lake storage water will provide an adequate water supply for Bear Lake irrigators.

BEAR RIVER BASIN
Streamflow Forecasts - February 1, 1999

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>						30-Yr Avg (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
BEAR R nr Randolph, UT	APR-JUL	10.0	53	83	70	113	156	118
	APR-SEP	7.0	56	89	70	122	171	127
SMITHS FK nr Border, WY	APR-JUL	59	75	89	87	105	135	102
	APR-SEP	72	91	106	90	124	157	118
THOMAS FK nr WY-ID State Line (Disc.	APR-JUL	12.7	18.6	24	73	31	45	33
	APR-SEP	14.1	20	26	72	33	48	36
BEAR R blw Stewart Dam nr Montpelier	APR-JUL	99	162	205	71	248	311	288
	APR-SEP	112	183	232	71	281	352	327
MONTPELIER CK nr Montpelier (Disc)(2	APR-JUL	5.6	7.3	8.8	72	10.6	13.9	12.2
	APR-SEP	6.9	8.8	10.4	73	12.3	15.6	14.2
CUB R nr Preston	APR-JUL	26	34	40	85	46	54	47

BEAR RIVER BASIN Reservoir Storage (1000 AF) - End of January					BEAR RIVER BASIN Watershed Snowpack Analysis - February 1, 1999			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BEAR LAKE	1421.0	1136.4	1118.9	978.0	Smiths & Thomas Forks	3	89	92
MONTPELIER CREEK	4.0	2.2	2.8	1.6	Bear River ab WY-ID line	8	89	86
					Montpelier Creek	2	97	90
					Mink Creek	1	87	78
					Cub River	1	81	99
					Bear River ab ID-UT line	15	88	87
					Malad River	1	64	89

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Streamflow Adjustment List For All Forecasts Published In Idaho Basin Outlook Report Streamflow forecasts are projections of runoff volumes that would have occurred naturally without influences from upstream reservoirs or diversions. These values are referred to as natural or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made to each forecast point in this report. (Revised October 1998)

Panhandle River Basins

KOOTENAI R AT LEONIA, ID
+ LAKE KOOCANUSA (STORAGE CHANGE)
CLARK FORK AT WHITEHORSE RAPIDS, ID
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS RESV (STORAGE CHANGE)
PEND OREILLE LAKE INFLOW, ID
+ PEND OREILLE R AT NEWPORT, WA
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS (STORAGE CHANGE)
+ PEND OREILLE LAKE (STORAGE CHANGE)
PRIEST R NR PRIEST R, ID
+ PRIEST LAKE (STORAGE CHANGE)
COEUR D'ALENE R AT ENA VILLE, ID - No Corrections
ST. JOE R AT CALDER, ID - No Corrections
SPOKANE R NR POST FALLS, ID
+ COEUR D'ALENE LAKE (STORAGE CHANGE)
SPOKANE R AT LONG LAKE, WA
+ COEUR D'ALENE LAKE (STORAGE CHANGE)
+ LONG LAKE, WA (STORAGE CHANGE)

Clearwater River Basin

DWORSHAK RESERVOIR INFLOW, ID
+ DWORSHAK RESV (STORAGE CHANGE)
- CLEARWATER R AT OROFINO, ID
+ CLEARWATER R NR PECK, ID
CLEARWATER R AT OROFINO, ID - No Corrections
CLEARWATER R AT SPALDING, ID
+ DWORSHAK RESV (STORAGE CHANGE)

Salmon River Basin

SALMON R AT SALMON, ID - No Corrections
SALMON R AT WHITE BIRD, ID - No Corrections

Weiser, Payette, Boise River Basins

WEISER R NR WEISER, ID - No Corrections
SF PAYETTE R AT LOWMAN, ID - No Corrections
DEADWOOD RESERVOIR INFLOW, ID
+ DEADWOOD R BLW DEADWOOD RESV NR LOWMAN
+ DEADWOOD RESV (STORAGE CHANGE)
NF PAYETTE R AT CASCADE, ID
+ CASCADE RESV (STORAGE CHANGE)
NF PAYETTE R NR BANKS, ID
+ CASCADE RESV (STORAGE CHANGE)

PAYETTE R NR HORSESHOE BEND, ID

+ DEADWOOD RESV (STORAGE CHANGE)
+ CASCADE RESV (STORAGE CHANGE)
BOISE R NR TWIN SPRINGS, ID - No Corrections
SF BOISE R AT ANDERSON RANCH DAM, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)
BOISE R NR BOISE, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)
+ ARROWROCK RESV (STORAGE CHANGE)
+ LUCKY PEAK RESV (STORAGE CHANGE)

Wood and Lost River Basins

BIG WOOD R AT HAILEY, ID - No Corrections
BIG WOOD R NR BELLEVUE, ID - No Corrections
BIG WOOD R BLW MAGIC DAM NR RICHFIELD, ID
+ MAGIC RESV (STORAGE CHANGE)
LITTLE WOOD R NR CAREY, ID
+ LITTLE WOOD RESV (STORAGE CHANGE)
BIG LOST R AT HOWELL RANCH NR CHILLY, ID - No Corrections
BIG LOST R BLW MACKAY RESV NR MACKAY, ID
+ MACKAY RESV (STORAGE CHANGE)
LITTLE LOST R BLW WET CK NR HOWE, ID - No Corrections
LITTLE LOST R NR HOWE, ID - No Corrections (Disc)

Upper Snake River Basin

HENRYS FORK NR ASHTON, ID
+ HENRYS LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)
HENRYS FORK NR REXBURG, ID
+ HENRYS LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)
+ DIV FM HENRYS FK BTW ASHTON & ST. ANTHONY, ID
+ DIV FM HENRYS FK BTW ST. ANTHONY & REXBURG, ID
+ GRASSY LAKE (STORAGE CHANGE)
FALLS R ABV YELLOWSTONE CANAL NR SQUIRREL, ID
+ GRASSY LAKE (STORAGE CHANGE)
TETON R ABV SO LEIGH CK NR DRIGGS, ID - No Corrections
TETON R NR ST. ANTHONY, ID
- CROSS CUT CANAL
+ SUM OF DIVERSIONS ABV GAGE
SNAKE R NR MORAN, WY
+ JACKSON LAKE (STORAGE CHANGE)
PALISADES RESERVOIR INFLOW, ID
+ SNAKE R NR IRWIN, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)
SNAKE R NR HEISE, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)

Snake R NR Blackfoot, ID

- + Palisades Resv (Storage Change)
 - + Jackson Lake (Storage Change)
 - + Div FM Snake R BTW Heise and Shelly Gages
 - + Div FM Snake R BTW Shelly and Blackft, ID
- Portneuf R AT Topaz, ID - No Corrections
- American Falls Reservoir Inflow, ID
- + All Correct Made for Henry's FK NR REXBURG, ID
 - + Jackson Lake (Storage Change)
 - + Palisades Resv (Storage Change)
 - + Div FM Snake R BTW Heise and Shelly Gages
 - + Div FM Snake R BTW Shelly and Blackft Gages

Southside Snake River Basins

Oakley Reservoir Inflow, ID

- + Goose CK ABV Trapper CK NR Oakley, ID
 - + Trapper CK NR Oakley, ID
- Salmon Falls CK NR San Jacinto, NV - No Corrections
- Bruneau R NR Hot Springs, ID - No Corrections
- Owyhee R NR Gold CK, NV
- + Wildhorse Resv (Storage Change)
- Owyhee R NR Owyhee, NV
- + Wildhorse Resv (Storage Change)
- Owyhee R NR Rome, OR
- + Wildhorse Resv (Storage Change)
 - + Jordan Valley Resv (Storage Change)
- Owyhee Reservoir Inflow, OR
- + Owyhee R BLW Owyhee Dam, OR
 - + Owyhee Resv (Storage Change)
 - + Div to North and South Canals
- Succor CK NR Jordan Valley, OR - No Corrections
- Snake R - King Hill, ID - No Corrections
- Snake R NR Murphy, ID - No Corrections
- Snake R AT Weiser, ID - No Corrections
- Snake R AT Hells Canyon Dam, ID
- + Brownlee Resv (Storage Change)

Bear River Basin

- Bear R NR Randolph, UT
- + Sulphur CK Resv (Storage Change)
 - + Chapman Canal Diversion
 - + Woodruff Narrows Resv (Storage Change)
- Smiths Fork NR Border, WY - No Corrections
- Thomas Fork NR WY-ID State Line - No Corrections (Disc)
- Bear R BLW Stewart Dam, ID
- + Sulphur CK Resv (Storage Change)
 - + Chapman Canal Diversion
 - + Woodruff Narrows Resv (Storage Change)
 - + Dingle Inlet Canal
 - + Rainbow Inlet Canal
- Montpelier CK AT Irr Weir NR Montpelier, ID (Disc)
- + Montpelier CK Resv (Storage Change)
- Cub R NR Preston, ID - No Corrections

Reservoir Capacity Definitions (Units in 1000 acre-feet, KAF)

Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. The table below lists these volumes for each reservoir in this report, and defines the storage volumes that NRCS uses when reporting capacity and current reservoir storage. In most cases, NRCS reports usable storage, which includes active and inactive storage.

Basin/ Reservoir	Dead Storage	Inactive Storage	Active Storage	Surcharge Storage	NRCS Capacity	NRCS Capacity Includes
PANHANDLE REGION						
Hungry Horse	39.73	--	3451.00	--	3451.0	ACTIVE
Flathead Lake	Unknown	--	1791.00	--	1971.0	ACTIVE
Noxon Rapids	Unknown	--	335.00	--	335.0	ACTIVE
Pend Oreille	406.20	112.40	1042.70	--	1561.3	DEAD+INACTIVE+ACTIVE
Coeur d'Alene	--	13.50	225.00	--	238.5	INACTIVE+ACTIVE
Priest Lake	20.00	28.00	71.30	--	119.3	DEAD+INACTIVE+ACTIVE
CLEARWATER BASIN						
Dworshak	--	1452.00	2016.00	--	3468.0	INACTIVE+ACTIVE
WEISER/BOISE/PAYETTE BASINS						
Mann Creek	1.61	0.24	11.10	--	11.1	ACTIVE
Cascade	--	50.00	653.20	--	703.2	INACTIVE+ACTIVE
Deadwood	1.50	--	161.90	--	161.9	ACTIVE
Anderson Ranch	29.00	41.00	423.18	--	464.2	INACTIVE+ACTIVE
Arrowrock	--	--	286.60	--	286.6	ACTIVE
Lucky Peak	--	28.80	264.40	13.80	293.2	INACTIVE+ACTIVE
Lake Lowell	--	8.00	169.10	--	177.1	INACTIVE+ACTIVE
WOOD/LOST BASINS						
Magic	--	--	191.50	--	191.5	ACTIVE
Little Wood	--	--	30.00	--	30.0	ACTIVE
Mackay	0.13	--	44.37	--	44.4	ACTIVE
UPPER SNAKE BASIN						
Henrys Lake	--	--	90.40	--	90.4	ACTIVE
Island Park	0.40	--	127.30	7.90	135.2	ACTIVE+SURCHARGE
Grassy Lake	--	--	15.18	--	15.2	ACTIVE
Jackson Lake	--	--	847.00	--	847.0	ACTIVE
Palisades	44.10	155.50	1200.00	--	1400.0	DEAD+INACTIVE+ACTIVE
Ririe	4.00	6.00	80.54	10.00	90.5	ACTIVE
Blackfoot	--	--	348.73	--	348.7	ACTIVE
American Falls	--	--	1672.60	--	1672.6	ACTIVE
SOUTHSIDE SNAKE BASINS						
Oakley	--	--	74.50	--	77.4	ACTIVE
Salmon Falls	48.00	--	182.65	--	182.6	ACTIVE
Wildhorse	--	--	71.50	--	71.5	ACTIVE
Owyhee	406.83	--	715.00	--	715.0	ACTIVE
Brownlee	0.45	444.00	975.30	--	1419.3	INACTIVE+ACTIVE
BEAR RIVER BASIN						
Woodruff Narrows	--	1.50	57.30	--	57.3	ACTIVE
Woodruff Creek	--	4.00	4.00	--	4.0	ACTIVE
Bear Lake	--	--	1421.00	--	1421.0	ACTIVE
Montpelier Creek	0.21	--	3.84	--	4.0	DEAD+ACTIVE

Interpreting Streamflow Forecasts

Introduction

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflows are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

Most Probable (60 Percent Chance of Exceeding) Forecast. This forecast is the best estimate of streamflow volume that can be produced given current conditions and based on the outcome of similar past situations. There is a 50 percent chance that the streamflow volume will exceed this forecast value. There is a 50 percent chance that the streamflow volume will be less than this forecast value.

The most probable forecast will rarely be exactly right, due to errors resulting from future weather conditions and the forecast equation itself. This does not mean that users should not use the most probable forecast; it means that they need to evaluate existing circumstances and determine the amount of risk they are willing to take by accepting this forecast value.

To Decrease the Chance of Having Too Little Water

If users want to make sure there is enough water available for their operations, they might determine that a 50 percent chance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk of not having enough water available during the forecast period, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded (or possibly some point in-between). These include:

70 Percent Chance of Exceeding Forecast. There is a 70 percent chance that the streamflow volume will exceed this forecast value. There is a 30 percent chance the streamflow volume will be less than this forecast value.

90 Percent Chance of Exceeding Forecast. There is a 90 percent chance that the streamflow volume will exceed this forecast value. There is a 10 percent chance the streamflow volume will be less than this forecast value.

To Decrease the Chance of Having Too Much Water

If users want to make sure they don't have too much water, they might determine that a 50 percent chance of the streamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of having too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include:

30 Percent Chance of Exceeding Forecast. There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.

10 Percent Chance of Exceeding Forecast. There is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

Using the forecasts - an example

Using the Most Probable Forecast. Using the example forecasts shown below, users can reasonably expect 36,000 acre-feet to flow past the gaging station on the Mary's River newa Deeth between Mar 1 and July 31.

Using the Higher Exceedance Forecasts. If users anticipate a somewhat drier trend in the future (monthly and seasonal weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause a problem they might want to plan on receiving only 20,000 acre-feet (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they determine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-feet (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

Using the Lower Exceedance Forecasts. If users expect wetter future conditions, or if the chance that the out of every ten years with similar conditions would produce streamflow volumes greater than 36,000 acre-feet was more than they would like to risk, they might plan on receiving 52,000 acre-feet (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes exceed this level only one year out of ten.

UPPER HUMBOLDT RIVER BASIN									
FORECAST POINT	FORECAST PERIOD	DRIER		STREAMFLOW FORECASTS				WETTER	
		FUTURE CONDITIONS		Chance of Exceeding				FUTURE CONDITIONS	
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	30% (1000AF)	10% (1000AF)	50% (Most Probable) (1000AF)	30% (1000AF)	10% (1000AF)
MARY'S RIVER nr Deeth	MAR-JUL	5.0	20.0	36	77	52	76	47	47
	APR-JUL	8.0	17.0	31	74	45	67	42	42
LAMOILLE CREEK nr Lamolle	MAR-JUL	6.0	16.0	24	79	32	43	31	31
	APR-JUL	4.0	15.0	22	75	30	41	30	30
NR HUMBOLDT RIVER at Devils Gate	MAR-JUL	6.0	12.0	43	73	74	121	59	59

For more information concerning streamflow forecasting ask your local NRCS field office for a copy "A Field Office Guide for Interpreting Streamflow Forecasts".



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